

Remarks

Indefiniteness Rejections

Claim 7 stands rejected under 35 USC 112, second paragraph because of a confusion over whether the methods A and B are alternative methods or method steps. The amendment to claim 7 clarifies that the methods A and B are steps required for the practice of claim 7.

Claim 7 is also objected to because the limitation "said annular reference surface" lacks antecedent basis. The limitation is now properly introduced as "an annular reference surface".

Obviousness Rejections

Claims 1, 2, 5, and 7 stand rejected as obvious over US Patent No. 6,253,589 to Putz et al. in view of US Patent No. 6,530,253 to Gotou et al. The Examiner finds in Putz et al. many of the limitations of claim 1 but admits that the annular weir part is not disclosed. The missing annular weir part is said to be taught by Gotou.

The Examiner finds the claimed annular weir in Gotou et al.'s illustration of a front cover 2 of a torque converter 1, which front cover 2 can be roll formed. Although Gotou et al.'s front cover 2 is formed with spline grooves 7e, the front cover is not an internal gear. More importantly, neither Putz et al., nor Gotou et al. forms an annular weir part on an inner peripheral surface of the raw material that is subject to roll forming. Putz et al.'s raw material starts in the form of a disk. The raw material of Gotou et al. that contributes to the formation of the noted weir

structure has an inside diameter much greater than the intended diameter of the spine tooth circle.

In particular, independent claims 1 and 7 both recite “an annular weir part having an inside diameter equal to or less than a tooth tip circle diameter of said internal gear part is formed on the inner peripheral surface of the raw material” (emphasis added). The Examiner’s attention is directed to FIGS. 2–4 of the subject specification illustrating the raw material 2 and the reference surface part 2c that serves as the “weir”.

Claims 3, 4, and 6 stand rejected as obvious over the same combination of Putz et al. and Gotou et al. in further view of US Patent No. 6,279,366 to Sakaguchi. The Examiner acknowledges that Putz et al. and Gotou et al. are missing forward and reverse rotations of the forming die or forming roll. However, Sakaguchi is said to teach such rotations among forming dies and rolls.

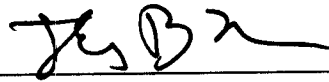
Although credited with teaching forward and reverse rotations, nothing in Sakaguchi or any other of the applied references suggests that the forming roll should be stopped at a location corresponding to the annular forming surface of the forming die for forming an annular reference surface of the internal ring gear as recited in claim 3. The more general teachings of Sakaguchi also fail to suggest that the forming roll should be relatively revolved in forward and reverse directions while its translation is stopped at the location corresponding to the annular forming surface of the forming die as recited in claim 4.

* * *

The amendment to the claims does not change the total number of claims (7) or the number of independent claims (2). Thus, no claim fees are believed due in connection with this amendment.

In view of the above amendments and remarks, reconsideration and allowance of all pending claims 1-7 are respectfully requested. For any questions on this amendment or the application, the Examiner is invited to contact applicant's representative at the telephone number given below.

Respectfully submitted,



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